a) selecting a particulate foam of thermoplastic material having a low crystallite portion in an otherwise amorphous phase, said particulate foam consisting essentially of one of polyalkylene terephthalate and a blend of polyalkylene terephthalates;

b) disposing a layer of material proximate to said particulate foam;

c) heating said particulate foam to a temperature in a region of a particulate foam melting temperature to melt together said particulate foam for forming a molded body;

d) connecting together said particulate foam and said layer of material during or following step c); and

e) tempering, during step c), during step d), or following steps c) and d), said particulate foam at a temperature converting said amorphous phase into an increased overall crystallite portion.

53. The method of claim 52, wherein step c) comprises the steps of forming said molded body using pressurized hot vapor and controlling at least one of a pressure and a pressurizing time for tempering said particulate foam.

54. The method of claim 52, further comprising additionally tempering said molded body following step c).

55. The method of claim 52, further comprising slowly cooling said molded body following step c).

56. The method of claim 52, further comprising controlling a temperature during tempering using a DSC measurement.

57. A composite material, consisting essentially of a molded body of particulate foam and at least one layer connected to said molded body produced in accordance with the method of claim 52, wherein said particulate foam consists essentially of one of a polyalkylene terephthalate and a blend of polyalkylene terephthalates.

58. The composite material of claim 57, wherein said particulate foam consists essentially of polyethylene terephthalate (PET).

59. The composite material of claim 57, wherein said particulate foam further comprises at least one of synthetic and natural reinforcing fibers.

60. The composite material of claim 57, wherein said layer connected to said particulate foam is a cover layer forming a visible side of the composite material.

61. The composite material of claim 60, wherein said cover layer is a foil comprising at least one thermoplastic polymer.

62. The composite material of claim 60, wherein said cover layer has a textile structure.

63. The composite material of claim 60, wherein said cover layer comprises at least one of polyalkylene terephthalate, PET, and a blend of polyalkylene terephthalates.

64. The composite material of claim 60, wherein said cover layer is welded to said particulate foam.

65. The composite material of claim 60, wherein said cover layer is coated onto said particulate foam.

66. The composite material of claim 57, further comprising an intermediate layer of fibers disposed between said cover layer and said particulate foam.

67. The composite material of claim 66, wherein said intermediate layer comprises at least one of a fiber mat, cloth, tissue, knitted fabric, and knits.

68. The composite material of claim 67, wherein fibers of said intermediate layer consist essentially of at least one of polyalkylene terephthalate, PET, and a polyalkylene terephthalate blend.

69. The composite of claim 66, wherein said intermediate layer comprises at least one of synthetic and natural reinforcing fibers.

70. The composite material of claim 66, wherein said intermediate layer is welded to said particulate foam.

71. The composite material of claim 66, wherein said intermediate layer is welded to said layer of material.

72. The composite material of claim 66, wherein said the layer of material is laminated onto said intermediate layer.

73. The composite material of claim 66, wherein said intermediate layer is a mixed fiber layer containing a first portion of at least one of polyalkylene terephthalate fibers and PET fibers which are welded to said particulate foam and a second portion of at least one of synthetic and natural reinforcing fibers comprising sufficient wettability for at least one of a rigidifying polym r, a hardening polymer and a linked

polymer forming a cover layer and disposed in a liquid phase onto a free surface of said mixed fiber layer.

74. The composite material of claim 73, wherein said polymer disposed onto said free surface of said mixed fiber layer is a thermoplastic material.

75. The composite material of claim 74, wherein said polymer disposed onto said free surface of said mixed fiber layer is at least one of polyalkylene terephthalate and PET.

76. The composite material of claim 73, wherein said polymer disposed onto said free surface of said mixed fiber layer is an elastomer.

77. The composite material of claim 73, wherein said polymer disposed onto said free surface of said mixed fiber layer is a thermosetting plastic material.

78. The composite material of claim 73, wherein said polymer disposed in its liquid phase onto said free surface of said mixed fiber layer is fiber-reinforced.

79. The composite material of claim 73, wherein said polymer disposed in said liquid phase onto said free surface of said mixed fiber layer comprises at least one of a

decorative layer, a foil, and a textile on a visible side thereof.

80. The composite material of claim 57, wherein said layer of material is a supporting layer which is one of disposed on a free surface of said particulate foam and disposed within said particulate foam.

81. The composite material of claim 80, wherein said supporting layer comprises at least one compact insertion part.

82. The composite material of claim 80, wherein said supporting layer comprises at least one polymer and is of compact structure.

83. The composite material of claim 82, wherein said supporting layer comprises at least one of polyalkylene terephthalate and PET.

84. The composite material of claim 80, wherein said supporting layer is welded to said particulate foam.

85. The composite material of claim 57, wherein the composite material has one of a multiple-layered structure and a sandwiched layer structure, wherein at least one composite material layer comprises a

particulate foam of one of polyalkylene terephthalate and PET.

86. A molded part comprising the composite material of claim 57.

87. Use of the molded part of claim 86 for at least one of inner linings and technical structural parts in automotive vehicles.

88. Use of the molded part of claim 86 for at least one of furniture and garden furniture.

89. Use of the molded part of claim 86 for at least one of a sports device, a surf board, a wave slider, and a hull.

90. Use of the molded part of claim 86 for at least one of packings, insulation containers, and housings.

91. A method for producing a molded part from a composite material manufactured according to claim 57, wherein said particulate foam comprises at least one of polyalkylene terephthalate and pre-foamed polyalkylene terephthalate containing a foaming agent with a low crystallite portion in an otherwise amorphous phase, said particulate foam being heated in a mold to a temperature at which the surfaces of said particulate

foam melt and connect to one another to form said molded body, and, after cooling, at least one cover layer is laminated onto a free surface of said particulate foam molded body, wherein said particulate foam molded body is tempered through appropriate temperature control during at least one of production and cooling thereof.

92. The method of claim 91, wherein said particulate foam is brought to a temperature at which surfaces of said particulate foam melt in a presence of an intermediate layer containing polyalkylene terephthalate, said intermediate layer is back-foamed, a composite thereby obtained is cooled, and a cover layer is subsequently laminated onto said intermediate layer.

93. A method for producing a molded part from a composite material manufactured in accordance with claim 57, wherein at least one cover layer is heated in a mold together with a least one of densely packed particles of foamed polyalkylene terephthalate and pre-foamed polyalkylene terephthalate containing a foaming agent to a temperature at which at least a surface of said particles melts, said cover layer is back-foamed, and the composite material is subsequently cooled, wherein a resulting particulate foam molded body is tempered by appropriate temperature control during at least one of production and cooling.

94. The method of claim 93, further comprising disposing an intermediate layer between said particles and said cover layer, wherein said intermediate layer is welded to both said cover layer as well as to said particulate foam via back-foaming thereof.

95. A method for the production of a molded part from the composite material manufactured in accordance with claim 57, wherein an intermediate mixed fiber layer having a first portion of fibers of at least one of polyalkylene terephthalate and PET, and a second portion of reinforcing fibers having sufficient wettability for a liquid-phase polymer forming a cover layer, and densely packed particles of at least one of foamed polyalkylene terephthalate and pre-foamed polyalkylene terephthalate containing at least one foaming agent, are heated in a mold to a temperature at which surfaces of said particles and said polylalkylene terephthalate fibers of said mixed fiber layer melt, a resulting composite is subsequently cooled, and a liquid-phase polymer which is at least one of rigidifying, hardening and linking is disposed in a liquid phase onto a free surface of said mixed fiber layer, wherein said particulate foamed molded body is tempered through appropriate temperature control during at least one of production and cooling.

96. The method of claim 95, wherein said liquid-phase polymer is mixed with at least one of synthetic and natural reinforcing fibers and subsequently disposed onto said free surface of said mixed fiber layer.

97. The method of claim 95, further comprising disposing one of a decorative layer, a foil, and a textile onto a visible side of said polymer disposed in the liquid phase.

98. The method of claim 97, wherein said decorative layer is disposed onto said mixed fiber layer together with said liquid-phase polymer by one of injection and pressing.

99. The method of claim 91, wherein said particles are heated in said mold together with one of a compact support layer and a compact support layer containing at least one polymer, to a temperature at which at least surfaces of said particles melt, wherein foam is disposed behind or around said support layer.

100. The method of claim 91, wherein at least one of said particles, said cover layer, an intermediate layer, and a supporting layer are heated to the melting temperature by a diffusing hot gas phase.